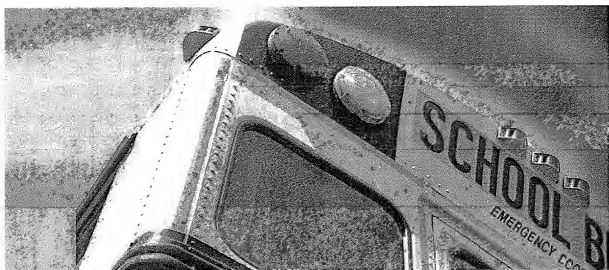
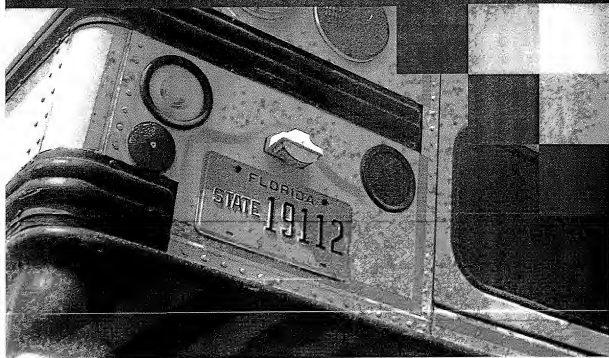


## **EXHIBIT D**



FLORIDA REVISED 2006

# SCHOOL BUS SPECIFICATIONS



# TABLE OF CONTENTS

	<u>Page</u>
<b>2006 Florida School Bus Specifications Revisions.....</b>	<b>5</b>
<b>Foreword.....</b>	<b>7</b>
<b>General Information and Warranty Provisions.....</b>	<b>9</b>
<b>Section I CHASSIS SPECIFICATIONS for Type A1 (19-29 capacity) and A2 (30-47 capacity) .....</b>	<b>I-1</b>
CHASSIS OPTIONAL EQUIPMENT for Type A.....	I-10
<b>Section II CHASSIS SPECIFICATIONS for Type B, C, and D .....</b>	<b>II-1</b>
CHASSIS OPTIONAL EQUIPMENT for Type B, C, and D.....	II-12
<b>Section III BODY SPECIFICATIONS for Type A1, A2, B, C, and D .....</b>	<b>III-1</b>
EXCEPTIONS for Type B and D .....	III-23
BODY OPTIONAL EQUIPMENT for Type A1, A2, B, C, and D .....	III-24
<b>Section IV EXCEPTIONAL CHILD BUS SPECIFICATIONS for Type A, B, C, and D .....</b>	<b>IV-1</b>
<b>Section V AIR CONDITIONER SPECIFICATIONS for Type A, B, C, and D .....</b>	<b>V-1</b>
<b>APPENDIX A .....</b>	<b>MINIMUM LETTERING AND LIGHTING</b>
<b>APPENDIX B .....</b>	<b>MINIMUM AIR CONDITIONER WARRANTY ITEMS</b>

## 2006 Florida School Bus Specifications Revisions

Section	Change
TOC	References to National Specifications updated
TOC	Bus Type definitions updated
TOC	Warranties and parts availability revised; no hours of use limitation
I	Antilock brakes requirements changed
I	Exhaust system requirements clarified
I	Front and rear suspension requirements revised
I	Optional tow hooks requirements clarified
II	Antilock brakes requirements changed
II	Automatic headlight system with buzzer added
II	29 capacity light duty specifications added
III	Post-trip passenger check system requirements revised
III	Defogger fan requirements clarified
III	Diesel particulate filter manual regeneration switch added
III	Passenger seats, Universal Child Restraint Anchorage points added
III	Passenger seats, high seat backs required
III	Type A buses required to have three point seat belts
III	Webbing cutter positioning clarified
III	Passenger windows requirements clarified
IV	Federal Motor Vehicle Safety Standards 403 and 404 reference added
IV	Platform width requirements revised
IV	Occupant securement system, part number added
IV	Handicapped sticker location revised
V	Complete revision to air conditioner requirements

This is not intended to be an all-inclusive list of changes, but is provided as a guide to the major revisions in this edition of "Florida School Bus Specifications." Please review the manual carefully for all changes.

**17. LETTERING AND TRIM**

Trim on 3 rub rails below beltline and all lettering shall be black (except for stop signs). Entrance door frames, pilaster panels, and other trim panels may be painted black if approved by the Department. Letters of words "SCHOOL BUS" on top front and rear section of bus body shall be 8 inches high and correspond to Series B, Standard Alphabet (see National School Transportation Specifications & Procedures). "(Name of District) DISTRICT SCHOOLS," on each side of bus body at beltline shall be in 6 inch minimum letters. Private and charter schools may alternately affix the name of the school in the aforementioned format and location. Numbers shall be in 6 inch minimum height and on each side and on front bumper and rear of bus body. "EMERGENCY DOOR" shall be in 2 inch letters at top or directly above door, visible inside and outside of bus. Lettering to indicate fuel type shall be located on body adjacent to fuel filler opening using minimum 1 inch letters. The words "STOP WHEN RED LIGHTS FLASH" shall be displayed on the back of all buses in 6 inch black letters. Also see lettering requirements for roof hatches and push out windows under **EMERGENCY EXITS, page III-12**. Districts may add an American flag decal to the exterior of the bus. If used it shall be no more than 6 inches x 10 inches and be located in front of the district name on the beltline of the bus. Also see United States Public Law 4USC7.

Front stop signal arm (both sides of arm) and rear stop arm (rear side only) shall have red background with a reflectorized white border and the letters "STOP" shall be in 6 inch white reflectorized letters. Both sides of the front stop arms and the rear side of the rear stop arm shall have reflectorized red sheeting of high intensity-type material. Material shall be warranted for 10 years against cracking, delamination, bubbles, wrinkles, or significant color changes (such as fading of red background); warranty shall include full replacement of material (not including labor). The front side of the rear stop arm shall be painted red. Also see **WARRANTIES, page 12**.

**NOTE:** Buses shall include the lettering and trim specified above, and may include, but shall be limited to, lettering, trim, symbols, markings, and coloration specified in the National School Transportation Specifications and Procedures, Revised 2005.

**18. LICENSE HOLDER**

License holder shall be on left rear outside of body with suitable method for mounting license tag.

**19. LOCKUP DEVICES**

Any emergency door equipped with a locking device shall have an ignition interlock, which prevents starting the engine when the door is locked and shall meet requirements of FMVSS 217. Emergency exit windows shall not be operable (under normal conditions) from outside the bus and shall not be equipped with any locking device.

**20. MIRROR SYSTEM**

- a. **Interior Mirror:** Shall provide adequate viewing of the entire length and width of the interior of the bus and be at least 6 inches X 30 inches. Mirror shall include the following characteristics:
  - (1) Shall utilize a 1/8 inch thick tempered safety glass mirror lens that meets or exceeds ANSI Z97.1 requirements for safety glazing in mobile environments and is bonded to the mirror housing.
  - (2) Shall include a heavy-duty single piece mounting bracket that fastens both to the front and bottom of the header panel in order to ensure stability.
  - (3) Housing shall be constructed of aluminum and shall be powder-coated, low-gloss black.
  - (4) Shall incorporate a single knob (thumbwheel) adjustment to allow the driver to reposition the mirror without the use of tools.
  - (5) Shall have a soft gasket type frame that is bonded to the housing.

**NOTE:** Interior mirror on Type A1 shall be a minimum of 50 square inches and meet the above requirements.

- b. **Exterior Mirrors:** Each school bus shall be equipped with a system of exterior mirrors complying with FMVSS 111 and meeting the following requirements:

- (1) Cross/Side-View Mirror System: The cross/side-view mirror system shall provide the driver with indirect vision of an area at ground level from the front bumper forward, and the entire width of the bus, to a point where the driver can see by direct vision. The system shall also provide the driver with indirect vision of the area at ground level around the left and right front corners of the bus to include the tires and service entrance on all types of buses to a point where it overlaps with the rear vision mirror system. This mirror system shall incorporate the following features or requirements:
  - (a) Only one mirror shall be installed at each front corner of the bus.
  - (b) Mirrors shall not reflect excessive glare from the bus headlights or the sun into driver's eyes. Mirrors shall be a  $\frac{1}{4}$  sphere or shaded  $\frac{1}{4}$  sphere design.
  - (c) Any fasteners used in the construction of the mirror and mounting brackets and fasteners used to hold the brackets to the bus body shall be stainless steel or other non-corrosive material such as Dacromat and Magnaguard.
- (2) Rear Vision Mirror System: A rear vision mirror system shall be provided that incorporates the following features and requirements:
  - (a) System shall consist of 1 aerodynamic mirror head, containing 1 flat and 1 convex mirror lens per side. Each mirror set shall be mounted on a single breakaway arm with positive detent or lock. The arm shall be mounted such that it holds the mirror from the top when possible. Type A1 buses may be exempted from this requirement if no such bracketry is available.
  - (b) Each of the 4 required mirrors in the rear vision mirror system shall be electrically operated, remote-control rear view mirrors.
  - (c) For Type A2, B, C, and D buses, the convex mirrors shall have a minimum of 38 square inches and the flat rear view mirrors shall have a minimum of 61 square inches of mirror surface. For Type A1 buses, the convex mirrors shall have a minimum 28 square inches and flat rear view mirrors shall have a minimum of 61 square inches of mirror surface.
  - (d) Stainless steel fasteners shall be used in the construction of the mirror, mounting brackets, and to hold the brackets to the body.
- (3) Overall exterior mirror system (cross/side-view and rear vision mirrors) shall incorporate the following features and requirements:
  - (a) Mirrors shall be isolated from vibration.
  - (b) Certification of compliance of the system with FMVSS 111 shall be provided as required by the Department of Education. Also see WARRANTIES, page 12.

## 21. PAINT AND FINISH

- a. Prior to the application of the finish coats to body, hood, and cowl, all surfaces shall be cleaned of grease, foreign matter, excessive body caulking, and sealing material and treated as per paint manufacturer's recommendation for proper paint adhesion. National School Bus Yellow paint shall meet National School Transportation Specifications & Procedures for color and shall have a finished gloss rating of at least 85 at 60°F and a distinctness of image rating of an average of at least 50 measured using the same method specified for gloss under WARRANTIES, page 12. Paint shall be applied for a total dry thickness of at least 1.8 mils over all painted surfaces. School bus roofs shall be painted white in color, and shall meet the above gloss and DOI ratings. White paint may extend to the leading and trailing edge of the roof caps, and may extend down to the drip rails. Trim, lettering, and bumpers shall be black except that bumpers may be striped in accordance with National School Transportation Specifications & Procedures or these specifications. Lead-free paint shall be used on all interior and exterior surfaces of the body and chassis. Also see WARRANTIES, page 12 for warranty requirements, STRUCTURAL DESIGN, page III-20 for required metal preparation, LETTERING AND TRIM, page III-15, and REFLECTIVE MARKINGS, page III-17.
- b. The interior of the bus body shall be painted with light gray paint meeting the following color specifications:

$L^* = 77.37$   
 $a^* = -1.17$   
 $b^* = -0.69$